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WALTER JAMES DODD

A BIOGRAPHICAL SKETCH

WALTER JAMES DODD

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[illegible]RAPHICAL SKETCH

BY JOHN MACY

[illegible]

BOSTON AND NEW YORK
HOUGHTON MIFFLIN COMPANY
The Riverside Press Cambridge
1918

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WALTER JAMES DODD

I

WALTER DODD's life was beautifully coherent. Through the apparently accidental encounters which led to the work that brought him distinction and suffering, there runs the unifying logic of his personality. He was self-made in the finest sense of the word, for every forward step in his career cost labor and pain. Yet in another sense he seems to have been predestined to do what he did do. His was the destiny of character. He had many virtues which are not uncommon in men, industry, courage, strength of will, humor, kindness. But there was, in addition, something more subtle, some unnamable charm, which attracted men to him and gave him the opportunities of which he made so much. This personal charm, which was the key to his character and to his work, must have been born with him. His nature, his soul, which

drew to him all men and women, employer, colleague, or patient, is the central theme of his remarkable story; round it the simple events fall into clear sequence.

Dodd was born in London, April 22, 1869, the youngest child and only son in a large family. His father was an artisan, a worker in metal roofing. He died when Walter was eight years old; so that it is not likely that his ideas had much influence on his son. Nevertheless, it is worth noting that he was a man of ideas; he was one of the earliest experimenters in the coöperative movement which later became important in the history of English labor. When his first experiments failed, he went cheerfully on to the next, undismayed and forgetful of the cost to himself; in one characteristic, at least, he was the true father of his son.

An uncle of Walter's was stage carpenter at the Drury Lane Theatre, and Walter was often behind the scenes. Once he got a place as supernumerary in the Christmas pantomime, without his father's knowledge and

consent. The father discovered the ticket and the fact that rehearsals had necessitated several absences from school; he administered fitting punishment and forbade Walter's appearance in the play. But he made up for the young actor's disappointment by taking him to the performance. Walter was scornfully critical of the boy who had taken his place. This is the only recorded instance in Dodd's life of envy or censoriousness. Later his interest in theatricals not only afforded him one of his greatest pleasures, but, as we shall see, had an indirect influence on his practical career.

At the age of ten Walter came to America to live with his sister, Mrs. Charles Cummins. The family was in none too comfortable circumstances, and Walter knew privation if not the severest poverty. After a few years in the public schools he went to work for the Oriental Tea Company in Boston, where he was employed as office boy. He started on what he used to call his first real job in February, 1883, and stayed until December, 1887.

Years later the senior member of the firm became Dr. Dodd's patient. One of the partners says that Walter was not a brilliant boy, but was good and reliable. However, before he had established his reputation as a trustworthy boy, he once forgot an errand, and his employer, who was, he says, absorbed in business troubles, summarily discharged him. But Walter was pertinacious and appeared at his post next morning. The employer, seeing him there and having only a confused recollection of this minor detail in his affairs, said: "Look here, did n't I tell you to go?"

"Yes, sir, but I came back."

After that he proved satisfactory. The business man's estimate of the boy's character as dependable rather than brilliant seems just. For Dodd's intellectual endowment was good, but not extraordinary, it was not the thing that made him; he did not fly to success on the wings of inspiration. His genius was made up of patience, steadiness of mind, and a capacity for work which implies a strong physical constitution. Enfolding all, surrounding him like

a light or like a perfume, was that personality whose magic it is difficult for words to recapture.

It was his personal attraction which led to his next employment, and so to his life-work. He was at this time in Miss Bullard's Sunday-School class at the Bulfinch Street Chapel. We do not know what his religious opinions and interests were then; later he came to a mild disbelief in immortality and thought that we have our chance on this earth once and for all. However that may be, it is the testimony of his associates of those days that one of the things which made the friendly Unitarian atmosphere of the Chapel most pleasant for him was the entertainments, the amateur theatricals; the boy who had played, in the boy's if not the actor's sense of the word, on the stage of the Drury Lane Theatre, became a favorite comedian in the Chapel performances. That he was a clever actor any one must believe who later heard him sing and tell stories; he had an excellent gift of mimicry, and his speaking voice with its seductive inflections

is unforgettable. Some pictures taken at this period, or a little later, show him in costume, and through the make-up there is revealed at least one feature as we afterward knew it, the humorous mouth with the sidelong smile.

In the Chapel, as everywhere, he found many friends. His teacher, Miss Bullard, recommended him to her cousin, President Eliot, of Harvard. At this time Dodd was planning to go to sea. His sister opposed the plan, and President Eliot also dissuaded him and secured for him the place of assistant janitor in the Boylston Chemical Laboratory at Harvard. Probably Mr. Eliot does not recall the circumstances, but Dodd liked to remember the two interviews with the President which led to a lifelong association with Harvard and Harvard men and also led to his association with the Massachusetts General Hospital where his real work began.

He served in the laboratory from December 26, 1887, until April 9, 1892. The teachers in charge of the laboratories in which he worked were Professor C. L. Jackson and

Professor W. B. Hill. After Dodd's death Professor Jackson wrote: —

"He was by far the best janitor we had, the only disadvantage being that he was so much too good for the place that we knew we must lose him soon, as proved to be the case. All of us liked him extremely and were very much interested in him and his subsequent career. It gave me a warmth about the heart only to see his sign in Beacon Street."

As janitor he had not only to clean and sweep, but also to prepare the materials for the students' experiments. Thus he came in contact with the subject of chemistry. He asked permission to do the experiments himself, and the instructors encouraged him because they liked him and also because the opportunity to study was what kept him in a position for which he was too good. The extent and quality of his work are shown in the letter of recommendation which Professor Hill gave him: —

"While he was in our laboratory, Mr. Walter J. Dodd attended regularly the lec-

tures given in general chemistry and performed all the experiments required of our students under the direction of one of the assistants. Upon that course he passed no examinations, but in the following year he took my own course in Qualitative Analysis. His experimental work was unusually good and he also passed with credit the two written examinations of the course. I think that he profited more from the instruction in the two courses than most of our matriculated students."

Professor Jackson reminds us that Dodd's approach to science was not unlike that of Faraday, who as a young man was employed, on the recommendation of Sir Humphry Davy, in the laboratory of the British Institution, first as wage-earner, later as chemist.

In April, 1892, Dodd was appointed assistant apothecary at the Massachusetts General Hospital. During the next two years he continued his studies in chemistry; he passed the State examination and became a registered pharmacist. In the autumn of 1894

he was appointed chief apothecary of the Hospital. He was an excellent chemist, and he came into touch with medicine long before the X-ray was heard of and longer still before he became a physician. Dr. Porter recalls the case of a clever neurotic woman addicted to morphine, who had been treated before with valerian, "calmer of hysteric squirms," knew the smell of it, and refused to take it. Dodd invented a combination which completely deceived her — and which to this day is lost to medical art.

In addition to the work of dispensing supplies and filling prescriptions, the apothecary had another task; he was official photographer to the Hospital. He took pictures of "interesting" persons, or portions of persons, alive or dead. So Dodd became an expert photographer. When, in 1895, were published the first obscure reports of the discovery by Roentgen of a method of photographing the bones of the body, Dodd set to work at once to explore this unknown force of which he was to become master and vic-

tim. The experiments which he and his assistant, Mr. Joseph Godsoe, made during the next few months were the first that were undertaken in any American hospital.

II

DODD's life is inseparable from the development of Roentgenology. A layman's imperfect sketch of the uses of the X-ray may help those of his friends who are not physicians to see his commanding figure against his professional background.

The discovery of the X-ray or the Roentgen-ray was one of four great moments in the history of surgery. The first was the use of ether as an anæsthetic, the beneficent spirit that first revealed itself at the Massachusetts General Hospital in 1846. The next step was the discovery of bacteria and the science of bacteriology founded by Pasteur. From that followed the third great development by Lister and others of antisepsis and asepsis, which means in layman's language the prevention, by chemicals and measures of cleanliness, of the infection of wounds. Then came the X-ray.

Roentgen found, by an accident which he had the genius to analyze, that a current of electricity passing through a vacuum tube produces rays, invisible to the naked eye, which penetrate substances opaque to ordinary light, such as fat and muscle, and cast on a photographic plate or a fluorescent screen the shadows of substances of greater density than fat and muscle, such as bone and metal. Since he did not know what these rays are, he called them "X"—unknown. In twenty years men have found and labeled other rays that lie beyond our vision, have explained their physical nature, and have invented and perfected apparatus for producing them. This work has been carried on in the laboratories of scientific institutions and of manufactories, and lies outside the work of the surgeon or the X-ray operator. He contributes suggestions and makes requisitions on the ingenuity of electrical engineers and manufacturers. Dodd suggested many improvements which makers of apparatus worked out. His great contri-

bution to the subject was made, not in the physical laboratory, but in the Hospital, in the application of the X-ray to surgery, in the diagnostic interpretation of what this wonderful new light revealed in the bodies of the wounded and the sick.

The X-ray made possible an accuracy and a rapidity of diagnosis hitherto unknown. The earliest and most obvious use of the ray was to localize foreign substances in the human body. Needles, bullets, fragments of glass, and other metallic intruders can be seen and their exact position determined. The surgeon no longer probes for a bullet as he did in the past, relying on the tactual encounter of his instrument, but by means of photographs, or fluoroscopic views taken from different angles, plots the situation of the offending body. Instruments have been devised which enable the radiographer to make these measurements with sureness and ease.

A similar use of the X-ray is in the observation of fractures of the bone. The day

of bone-setting by touch and guess is past. In the case of fracture or dislocation, indeed of almost all internal injuries, an X-ray examination is a matter of course. By means of good X-ray plates a surgeon skilled in interpreting can often diagnosticate an injury or a diseased condition in a patient whom he has never seen. In hundreds of cases Dodd knew what the surgeon would do, or ought to do, before the surgeon arrived.

In the days before radiography people suffered from injuries in bones and joints which doctors were unable to account for with any degree of certainty. Sprained wrists continued to give pain long after the effect of the "sprain" should normally have passed. In such cases to-day the X-ray sometimes discloses a minute fracture which the doctor's touch has failed to discover. Lesions of the bone caused by tuberculosis, syphilis, and other diseases, subtle injuries which were formerly hidden unless the bone was laid bare, are now rendered partially

visible to the trained eye by the light which sees under the skin.

The opacity of bone, metal, and other solid substances makes their shadows relatively definite and obvious. With the development of Roentgenology, the improvement of apparatus, and the increased skill of practitioners, differentiations became possible which are much finer than the shadow contrasts between bone and flesh. The relative densities of different kinds of tissues, of the tissues of different organs, of diseased and healthy tissues of the same organ were recorded with ever-increasing legibility upon the radiographic plate.

A most important use of the X-ray has been in determining the condition of the lungs and the digestive system. It has long been known that the important thing in fighting tuberculosis is to discover it early, to check it before its ravages get beyond control. And it is also known that tuberculosis of the lungs can advance to a dangerous stage before it gives the physical signs

by which physicians have been accustomed to recognize it. The X-ray exposes incipient consumption and shows the place and extent of the lesion. By introducing into the alimentary tract some substance opaque to the X-ray, such as bismuth, the physician can throw on the fluoroscopic screen a sort of moving picture of the digestive process and detect any obstructions or abnormalities. Among the first experiments with this method of examination was the work of Dr. Walter B. Cannon; and Dodd was his coadjutor. He was first mate on many ships that tried uncharted waters.

The list of diseases the presence and extent of which are betrayed or confirmed by the X-ray, would fill pages and would include most of the enemies to human health. Among them may be mentioned many forms of tuberculosis, occult abscesses whose ramifying consequences physicians were once unable to refer to their source, tumors, cancers, kidney stones, gastric ulcers, diseases of the heart.

In addition to their use in exploring and illuminating the body X-rays have a therapeutic or curative value. They destroy or check the growth of morbid tissue, such as tumors and cancers. This use of the ray, which is rapidly developing, may prove to be one of the most important of its services. Dodd himself was rather skeptical, or inclined to suspend judgment (for skepticism is not the word for his cool reserve of opinion, his combination of tempered accuracy and daring); in his own case he dismissed deep X-ray therapy as of such doubtful value as to be not worth trying. But he was tireless in trying it on other patients.

The X-ray not only destroys malignant tissues, but with blind impartiality breaks down healthy tissue and so induces cancerous growth. The first radiographers learned this by cruel experience. Many were hurt and some were killed by the unknown power which they were studying for the benefit of others. They paid the price of ignorance and with their sufferings bought the knowledge

which has made the X-ray safe for patients and operators. The story of these men and their work is a splendid instance of human intelligence converting to human service natural forces which if misunderstood and allowed to run wild are charged with danger.

III

At the Massachusetts General Hospital there is affectionately preserved a glass bulb about the size of a potato; it is Dodd's first attempt to make an X-ray tube. No X-ray ever came out of it or ever could come out of it. It is one of those fine little failures that are the prelude to achievement. At the Hospital they enjoy telling how Dodd and his assistant went about the institution "borrowing" fragments of electrical appliances with which they labored after hours to fashion an X-ray machine. For some months their plates did not show the faintest shadow. In March of the next year, 1896, they bought a commercial X-ray tube, and they got their power from a static electrical machine which they borrowed from the Hospital laboratory and which they were allowed to use only after the institution had closed for the night. The following October they borrowed

from an electrical company a twelve-inch induction coil. That month the Hospital celebrated the fiftieth anniversary of the discovery of the use of ether as an anæsthetic, and Dodd's first X-ray plates were among the exhibits. As a result of the interest they aroused the Hospital bought the induction coil. And Dodd's work was under way.

It was no uncommon thing for Dodd and his assistant, Mr. Godsoe, after their duties in the pharmacy were done for the day, to work all night in a close, dark room, where the temperature sometimes rose to 110°, so that it was necessary to put ice in the developing fluid to prevent the film from leaving the glass. In those days Dodd had an excellent physique, a slim, athletic figure, and limitless energy. He was fond of sports, tennis, bowling, and baseball. The work which he had entered upon was to be manual as well as mental and would seem to demand as an indispensable equipment a sound, strong pair of hands. So much one might have asked in his behalf of a reasonable Fate.

DODD AS A YOUNG MAN

But it was not to be. He was destined to carry on his work for twenty years with hands that became more and more crippled and mutilated.

His suffering began almost immediately. In November, 1896, only a month after the installment of the induction coil, he was treated for severe dermatitis, which resembles acute sunburn. By the following April his burns had so far increased that he was put on the dangerous list at the hospital. It was as though his hands and face had been scalded, and the pain, Dr. Porter says, was beyond description. At that time it was not known that the familiar sunburn and arctic burn are caused by the invisible ultra-violet light rays, and the nature and the effect of X-rays were not even suspected. It was not until several years later, when men had been burned in laboratories and hospitals all over the world and surgeons and physicists began to compare notes, that the disastrous effects of X-rays were understood and guarded against. At first the obvious remedies, washes and oint-

ments, were applied. Meanwhile the cause of the trouble continued to operate and wrought ever more irremediable damage.

Dodd himself did not suspect the gravity of his injuries. In his nature cheerfulness and intrepidity merged into recklessness and obstinacy. Though he endured untellable torments, he made light of his sufferings. The burns would get well. It may be that he really thought his injuries were superficial and temporary; or it may be that he was practicing a little self-deception, — it was the only deception that he ever practiced, — for in spite of his courageous candor in facing facts, he never lost a slightly superstitious optimism about himself. And he was confirmed in his faith that things would come out all right by the number of times that he recovered when by all the rules a weaker man would have succumbed.

Whether reckless or innocently unaware of the risks he was running, he certainly did not spare himself. As soon as pain abated and he could use his hands, he was back in

the dark room with his precious machine. Mr. Godsoe recalls that as a matter of course before they went to bed they washed their hands in zinc oxide solution and wrapped them in cloths. Often when pain made sleep impossible, Dodd would walk the floor of the pharmacy all night with his hands above his head.

It is easy now to understand what was happening to Dodd and his contemporaries. In a modern X-ray machine the strength of the current, the quality of the spark, all the conditions, are determined by metrical instruments. In the early days the operator tested his tube and adjusted it by throwing the shadow of his hand on the fluoroscope; by the look of the shadow he judged how the machine was behaving. First he used the left hand until that became too sore, then the right. And until devices were found to focus and confine the rays, the face of the operator was exposed, and sometimes the neck and chest were burned. A limited exposure to the X-ray is as harmless as a walk

in the sunlight. It is the repeated, continuous bombardment of the ray that is calamitous. Dodd and the other pioneers lived in the X-ray.

To dwell too much on Dodd's suffering would be a violation of his spirit. The memory of his reticence and uncomplaining fortitude all but imposes silence. He regarded his own case with a curious objectivity, as if the affliction had befallen another man. He took a third-personal attitude toward himself as the patient of his friend and surgeon, Dr. Porter. He was more solicitous for the success of an operation from the surgical point of view than for the benefit to himself. Even to his relatives and most intimate friends he seldom spoke of his injuries. Beneath the surface of his communicative nature, which was instantly responsive to any one he met, lay a profound reserve. More than once Mrs. Dodd discovered by accident that he had had severe hemorrhages which he had concealed from her; on being accused, he meekly admitted the fact — and then dismissed it. He

was sensitively aware that his mutilations might be unpleasant to other people; and it is true of him, if it is true of any human being, that though constant pain gave him the right to be conscious of himself every minute, he always thought of other people first. As I write this, I can see his smile of wistful protest; his photograph winks at me, and I hear his exquisite voice say: "Old top, don't lay it on too thick." And yet to convey to those who did not know him a little of the magnitude of his story, to suggest the quality of his heroism, which his friends knew and which it is right for others to know, I shall be obliged to displease him by giving at least a simple chronicle of the sufferings which he magnificently overcame.

By the middle of his second year of work with the X-ray, his hands were crippled by acutely painful ulcers. In July, 1897, Dr. Porter performed the first of a series of operations in skin-grafting, which were successful and brought relief from pain. This method of treatment was new at that time,

and Dodd himself suggested the experiment. The excellent results in his case helped to establish skin-grafting and so benefited many other patients. In 1902 carcinoma developed and the first amputation became necessary. From that time on surgeon and patient together fought stubbornly and courageously to save as much as possible of those useful hands. There were fifty operations under ether, which lasted from an hour and a half to three hours. The capable fingers were taken away bit by bit. Rather than yield a fragment of a joint, Dodd would endure the agony of keeping it for months after it should have been removed. Sometimes neither surgeon nor patient could judge in advance just how extensive an operation might prove to be necessary, and Dodd went to the operating-table without knowing how much of his hands would be left when he awoke from the ether.

And between operations he pursued his work, never sparing himself, often neglecting himself until his friends insisted that he

must no longer postpone the next of the ever-recurring operations. His superb detachment of mind for once broke the rule that a doctor makes a poor patient, for in consultation with his surgeon he conducted his own case and decided himself when it was time to go to the hospital. Perhaps he might have saved himself much suffering if he had accepted his invalidity and given his whole attention to getting well. It may be that more radical operations at the beginning would have checked his disease and delayed his death. But he lived for his work and he determined to preserve and use as long as possible the manual instruments on which his work depended. He did much in a few years and was content. For in spite of his suffering he was happy in his work. No man was ever more enthusiastically absorbed in his task. That is why he was often in his laboratory when he ought to have been in bed. And that is why he did not flinch or waver or complain.

Dr. Porter gives a vivid picture of Dodd in which one sees in a flash the extent of

his sufferings and his humorous bravery. One morning in May, 1905, Dr. Porter met Dodd coming down the hospital corridor with his characteristic gait (it was a sort of sinewy and graceful swagger) and an unusually happy smile on his face. Dodd asked the surgeon if he noticed anything queer. "No." "Don't you see that I have both hands in my trousers pockets and not a dressing on either?" It was the first time he had been able to do this in eight years. In one place only has Dodd left a record of what he endured. It appears in the article which he wrote in collaboration with Dr. Robert B. Osgood, entitled "The Technique of Radiographic Work as Applied to Surgery and the Interpretation of Radiographs," and published in "American Practice of Surgery." The authors say: "The martyrdom of those men who began their X-ray investigations soon after its discovery has been a very real one. The lesions which have resulted have been in many cases ineffaceable and have entailed an im-

mense amount of physical and mental suffering." Dr. Porter has written: "From my experience and personal communications from patients, I believe that the agony of inflamed X-ray lesions is almost unequaled by any other disease. While morphia has been used in some of the cases, it is really surprising to find how many have borne their pain without resorting to its habitual use."

From the beginning Dodd had at hand in the pharmacy morphine and other narcotics. He never touched them. Even during his last illness he rebelled against the hypodermic injections of morphine which his physicians ordered. The only drug which he allowed himself to take was aspirin, which came into use several years after his first injuries. An ordinary man might have been pardoned for taking to drink or to drugs, or for meditating suicide. But Dodd's spirit was triumphant in everything that gives worth to human nature.

Only once for a short period did his

brave mind skirt the shore of dark thoughts. It was during a time of intense suffering when, as he later confessed, he seemed to be losing his nerve. He used to hope when he was on a railroad train, not that an accident might happen, but that if an accident should happen he might be killed. And he sometimes loitered when he crossed the street, praying that a truck might run him down. It is consoling to know of this momentary departure from his steadfast, cheerful way, for it brings him nearer to us ordinary mortals; he was extraordinary, but he was not superhuman. Chance was kinder to him than he knew, for his life grew ever richer and more useful, and though he was never free from suffering, he was happy; his last years were the happiest of all.

IV

THE unique authority which Dodd attained in the Hospital and in his profession was in a double sense a triumph of personality. It was not only that he was a pioneer and threw all his strength into his task; other men in other institutions advanced the science of radiography with equal energy and self-sacrifice. It was not only that his courage and sound judgment commanded respect; the history of the X-ray is rich in intelligence and bravery. But his lovable character brought him extraordinary opportunities, for it invited to his laboratory the best minds in the Hospital. He was the favorite of the institution. Doctors and surgeons enjoyed talking over their cases with him. So that while he taught much and gave freely of himself to others, he also learned much from others, and for years before he took a degree in medicine he had been in school under the

best surgeons and physicians. His accumulated experience in the interpretation of radiographs was the sum of his own observation and the instruction which he absorbed from specialists.

Thus the time came when he had seen and learned to interpret the radiographic records of more cases of more kinds than any of the doctors. Usually the radiographer, however skillful and highly respected, is subordinate to the surgeon; he makes the pictures and the surgeon interprets them. Dodd was more than that; he came to be really a consulting surgeon, whose opinion of the advisability and nature of an operation guided the acting surgeon. As his colleague, Dr. Lee, has said, he spoiled the men at the Massachusetts General Hospital because they relied implicitly on his interpretation for guidance. When the Medical Unit, of which Dodd was a member, went to France, his old associates at the Massachusetts General Hospital had an amusing and gratifying experience. Members of the Unit from other

institutions, though they knew Dodd's work, were not accustomed to defer to the judgment of an X-ray operator, and they were puzzled by the attitude of the men who had worked intimately with him. In a short time all the doctors in the hospital came to understand and make use of Dodd's sound and accurate judgment. At least one soldier owes his arm to Dodd's revision of a surgeon's first conclusion from an X-ray examination.

In what concerned himself alone Dodd was venturesome, even reckless; in what concerned others he was judicious and cautious. Among Roentgenologists he had the reputation of being conservative. Like other new discoveries the X-ray passed through a period when its more enthusiastic champions expected too much of it and gave for it promises which could not be immediately fulfilled. This was especially true in its therapeutic uses. Dodd's attitude was one of patience and retarded conclusions. So that when he spoke at meetings of medical societies or was called in consultation, he was listened to with

respect. At the same time he was an eager experimenter. His assistants used to deplore the facility with which the exploiter of some new device could persuade him, and they accused him of being gullible. He was not that. On the contrary, he had a vein of what his English soul will permit us to call Yankee shrewdness, and he was an excellent mechanic. Simply, he believed in trying everything once, and more than once if it revealed a glimmer of promise.

Beyond his scientific authority and his professional competence, he brought to the service of his patients the gifts of his sweet and deep nature. Only his patients know what he did for them and nobody knows how he did it. He had a way with children which his assistants could not acquire. In the days before devices were perfected for holding a patient in place, it was difficult to keep a child quiet under a crackling machine long enough to take a clear picture. To a childish imagination—of any age—an X-ray room is not a reassuring place. The most

unmanageable youngster, who defied the arts of the other operators, yielded at once to Dodd's magical touch and the arresting gentleness of his voice. Perhaps his influence on children was allied with his power over animals; for he could whistle birds to his window, and he had a secret understanding with cats and dogs.

Older patients, especially those that had suffered severely, were no doubt touched and strengthened by the visible evidence of his own suffering. They were won instantly by his smile and the cheerful word. One story is probably representative of hundreds which will never be told. A patient of Dr. X. was a woman in early middle years. Her physical ailments were not alarming, but were simply the signs and accompaniments of the incurable malady of growing old. Her spirit rebelled against the passing of the charms that depend on youthful well-being. When Dr. X. suspected some obscure trouble with the teeth and recommended that she have her jaws X-rayed, she flew into a pas-

sion of revolt. Life was not worth living. However, she went to Dodd and the jaws were X-rayed. A cure was wrought before Dr. X. saw the plates, for she returned to him and said: "Thank you for sending me to that wonderful man. He has changed my whole outlook on life."

When some studies were being made of the hearts of athletes, a group of Harvard students were selected for examination and were asked to report at Dodd's office. A sturdy youth, conscious of perfect health, wants to be shown a reason why he should waste his time having his heart examined, especially when the problem which the foolish doctors are studying implies a suspicion of the benefit of hard exercise. There was some boyish grumbling. But that ceased after one visit to Dodd's office. The boys had met a man, and they would have stood on their heads for him.

For all his experience with patients, and in spite of his own living testimony that present pain can be borne and imminent inva-

lidism can be faced serenely, Dodd never learned to regard with professional equanimity acute physical distress in others and the pathos of hopeless cases. The treatment of cancers exhausted him. The continuous pouring out of cheer and courage into the hearts of men and women, some of whom he knew to be doomed, was a severe tax even on his deep spiritual resources. Sometimes he would pother in his back office, pretending to be busy over a plate, but really screwing up his courage to meet a waiting patient whose agonies he knew would be ended only by death. He would say to his wife at the end of a trying day: "That poor woman will never get well, and I had to tell her that she is better. Of course she is Dr. Y.'s patient, not mine; and I probably could n't tell her the truth anyway. But it hurts." 'And there would be no sleep for him that night.

Dodd's professional advancement was sure and rapid and made him and his friends immensely happy. Though experience had long

since made him the peer of many physicians, he was ambitious to take a degree in medicine. It was partly his modesty that made him feel that "Mr." Dodd was inferior to the doctor who depended on him for advice. He had known so many fine doctors that his respect for the degree and for the institutions associated with it was rooted in personal affection. Besides, a degree was of practical value in his career. So in 1900 he entered the Harvard Medical School. But he stayed only a year. His real work would not let him alone; he was so persistently sought for his knowledge of radiography that formal study was impossible. The only thing to do was to leave Boston and the old M. G. H. and find a retreat far enough away from the work that had been his life day and night. He went, accordingly, to the Medical School of the University of Vermont, where he studied intermittently until 1908, when he received his degree in medicine. On his departure, the staff of the M. G. H. gave him a gold watch, of which he was proud with

an overweening modesty. Is it permissible to record that in his will he left that watch to Dr. Porter's son?

During this time of formal schooling Dodd kept his position as pharmacist of the Massachusetts General Hospital and in alternating periods carried on his work there and pursued his studies in Vermont. The life in Vermont, aside from the advantages of study, was good for him, and he was happy there. He was president of his class, and he was, of course, popular with his classmates.

During his absence from the Hospital his work was assumed by his faithful colleague, Mr. Godsoe, who took advantage of the opportunity to arrange systematically the thousands of plates that had accumulated. Dodd carried them in his head and could lay his hand readily on what he wanted, and besides, he was temperamentally indifferent to order of the card-catalogue kind. Mr. Godsoe realized that if anything happened to Dodd the usefulness of the recorded

work of years would be seriously impaired unless it was methodically classified. Without the assistance of Mr. Godsoe, whose devotion to his chief went far beyond official relations, it is difficult to conceive how Dodd could have carried through his work at the medical school. For though the technical studies must have been child's play to a man who had lived in a practical medical school for years, this was the period when the most drastic operations on his hands followed in rapid succession.

After his graduation from the Vermont Medical School, Dodd was officially appointed what he long had been in fact, Roentgenologist to the Massachusetts General Hospital. From the little hole in the wall where Dodd first fumbled in the dark, the X-ray laboratory had grown into one of the busiest and most important departments of the Hospital; the use of the X-ray had ramified in every direction, and besides being overcrowded with routine work the laboratory was the scene of continuous experi-

THE BULFINCH FRONT
OF THE MASSACHUSETTS GENERAL HOSPITAL

mentation with new machines and new applications of radiography. Though Dodd had able assistants, who adored him and did everything to lighten his burden, his work at the Hospital was enough to take the time and energy of an ordinary man. But his energy, taxed by pain as well as by work, seemed inexhaustible, and he was prodigal of time; as is sometimes the case with the few men who accomplish much, he never seemed to be in a hurry and was always at the service of any one, doctor or layman, who showed genuine interest in the work.

At this time Dodd entered private practice and opened an office on Beacon Street. After that he formed an alliance with Dr. Percy Brown, in which they were both happy and which lasted in an informal way until Dodd's death, though they practiced in different offices. In the last year of his life he bought a house on Marlborough Street and the new office became a thriving place. It is a heart-breaking pity that he did not live to enjoy the prosperity which was

coming to him inevitably and abundantly. It was coming to him in spite of his delightful indifference to business-like method. His associates tell, between laughter and tears, stories of his easy-going irregularity in the matter of making reports and sending out bills. And many patients, whose names we shall never know, can bear witness that in one aspect of his treatment of them he was careless and forgetful. The printed form which Dr. Dodd's office sent to patients whose sense of obligation was tardy is, in its delicate and naïvely considerate phrasing, an invitation to the delinquent not to pay at all if payment be not convenient! I have wondered whether this absurdly uncommercial document may not have proved in some cases practically effective, like the "dun" letter of the Japanese who threatened the debtor "with something that would cause him the utmost surprise."

If Dodd's way of conducting his affairs sometimes troubled his friends, it was be-

cause they knew that his days of work might be cut short by death, or, what would have been worse, by physical incapacity. One of his friends and patients, the head of a great corporation, threatened to send an efficiency expert to manage Dodd's business. No doubt a business man would have made larger profits from that increasingly busy establishment. It must not be thought, however, that Dodd was irresponsible, as men of genius are said to be, and are not. He had been schooled in poverty, and others were dependent on him. It was one of the contradictions of his character that though he was apparently neglectful of the mere process of getting money, yet when once it came into his hands he had an accurate sense of its value. When in the last days he had to put his mind on affairs as he should leave them to others, he had a precise knowledge of everything he owned. In his prosperous years he hugely enjoyed spending money for himself and others. When he bought his summer house at Allerton, the transaction

was for all the world like that of a boy who, having an extra dollar to use as he pleases, comes home beaming with a new jack-knife.

In September, 1909, Dodd was appointed Instructor in the Use of the Roentgen Ray at the Harvard Medical School, and later his title was changed to Instructor in Roentgenology. He held his position until his death. There is some humor in the story of his appointment. When the position of Roentgenologist was created, the professors at the School were casting about impartially for the right man to fill it. Dodd's name, like other names, was known to them; but his professional reputation, and, more than that, the intense affection and admiration for him, were concentrated in the Massachusetts General Hospital. From the doctors there something like a roar of "We want Walter!" came to the bewildered ears of the men who were to make the appointment, and he was, as it were, elected by acclamation.

His literary contributions to his subject

were almost all in collaboration with other physicians. He was often urged to write a book, and he began it; certainly his exposition of his knowledge, based on a uniquely inclusive experience, would have been invaluable. But there were limits even to his energy, of which he was, moreover, incontinently prodigal, and the book was never written. Other doctors making special investigations sought his assistance; he threw himself into their work, and he never quite understood why they insisted on his appearing as joint author. When Drs. Bryant and Buck, editors of "American Practice of Surgery," applied to Dr. Robert B. Osgood for the article on "Radiography," Dr. Osgood agreed to make the contribution on condition that Dodd should be his associate. Their study appears in Volume I, under the title: "The Technique of Radiographic Work as Applied to Surgery and the Interpretation of Radiographs. By W. J. Dodd and Dr. Robt. B. Osgood."

In the preface to "A Clinical Atlas: Vari-

ations of the Bones of the Hands and Feet," the author, Dr. Thomas Dwight, writes: "The skiagraphs were taken at the Massachusetts General Hospital. . . . I cannot express too strongly my indebtedness to Walter J. Dodd, the head of the X-ray department, for his unfailing patience, his valuable help, and constant interest."

Following is a list of Dodd's published work: —

"Treatment of Acute Roentgen Ray Dermatitis. *American Journal of Roentgenology.* N.S. Vol. 1, p. 430.

With R. I. Lee and E. L. Young: "A Study of the Effect of Rowing on the Heart." *Boston Medical and Surgical Journal* (1915), pp. 499–502.

With T. W. Harmer: "Sources of Error in the Use of the Stomach Tube for Diagnosis." *Archives of International Medicine.* (Chicago, 1913.) Vol. XII, p. 488.

With F. B. Talbot and H. O. Peterson: "Experimental Scorbutus and the Roentgen-Ray Diagnosis of Scorbutus." *Transactions*

American Pediatry. (Chicago, 1913.) Vol. XXV, pp. 195–212.

"Roentgen Ray in Tuberculosis of Children." *Boston Medical and Surgical Journal.* (1914.) Vol. CLXXI, p. 453.

With F. B. Talbot: "The Roentgen-Ray Diagnosis of Scorbutus in Infancy." *Boston Medical and Surgical Journal.* (1913.) Vol. CLXIX, p. 232.

With F. B. Talbot and Others: "Experimental Scorbutus and the X-Ray Diagnosis of Scorbutus." *American Journal of Obstetrics.* (New York. 1913.) Vol. LXVIII, p. 388.

Hugh Cabot and W. J. Dodd: "The Diagnosis of Stone in the Pelvic Portion of the Ureter: a Preliminary Report on Certain Limitations of Radiographic Diagnosis, and a Suggested Remedy." *Boston Medical and Surgical Journal.* (1910.) Vol. CLXIII, p. 85.

V

Dodd's life was not all work and suffering. No man ever had a greater capacity for joy; and aside from his work, which was for him an endless entertainment, he had deep sources of happiness. In 1910 he married Margaret Lea. She was a nurse at the Massachusetts General Hospital and had been operating nurse at the Stillman Infirmary in Cambridge. That marriage was a union of brave souls, who faced an uncertain future together and found that future rich beyond expectation. It was impossible to predict the course of Dodd's infirmities; any day he might become incapacitated. That he lived to enjoy glad years of work is due in large measure to his wife. That she was a professional nurse made it possible for her to give him such help as his sensitive pride could not have accepted from another woman.

Though he did not realize it and would

have denied it, he had lived too closely confined in the Hospital. He was reluctant to go out to places where he was not at home, even to the houses of his friends. He shrank from the thought of being watched in public, and even at intimate tables he suffered from the fear of some mishap in handling his food, though, indeed, his quiet dexterity was marvelous. It never occurred to him that he was a delight at a dinner, that the interest which focused on him was of the finest kind. And he hated to make trouble for others! Often he would accept an invitation, and when the day came, or the hour, at which it was too late to capture him, he would tell his gentle and transparent lie, if possible by telephone, to the effect that some work which he had not foreseen would prevent his having the great pleasure. Sometimes his friends carried him off in spite of his protests. One of his friends hit on the happy idea of wearing gloves himself in a restaurant. This happened to strike Walter's sense of humor and put him at ease. You and I would not have dared

to do it; but the instinct of that now distinguished surgeon was right.

To one public place he went often — the theatre. In the early days of his suffering he would stand up in the rear, so that he might slip out easily without attracting attention. Sometimes he would drop into two or three theatres in the course of an evening, restless from pain and hoping to find something that would wholly engross his thoughts. For him the theatre was recreation in every sense of the word. After an especially trying day, an evening at the play was Mrs. Dodd's unfailing prescription to insure a sound night's sleep. He would go to bed singing the tunes of a musical comedy and mimicking the actors.

Next to his home and the Hospital the association which brought the most joy into Dodd's life was the St. Botolph Club. Several doctors belonged to the club, and it was not long before he made friends among members of other professions. The membership of the club represents a broad va-

riety of occupations, professional and artistic, and Dodd's eager interest in all aspects of life found new opportunity to express itself.

He soon came to be taken for granted, and when he dropped in for lunch or dinner he could always be sure of finding some one who as a matter of course would give him the slight assistance that he needed. Sometimes his friends, even when they knew he was tired, indeed, when they suspected he was unusually tired, would telephone to Mrs. Dodd and ask her to insist on Walter's coming to the club for dinner; for we knew it was good for him. There never was a finer illustration of the true value of a club of men, and no man ever enjoyed a club more.

At special celebrations Dodd's presence was demanded, and after dinner he was always called on. Perhaps none of the amusing things he said would be especially quotable, but the image of his humorous face and the quaint drollery of his voice will not

pass from the memory of those who sat at table with him. Another image is of him sitting in an armchair with his finger hooked through the handle of a pewter mug, chatting. He talked easily and thoughtfully on a wide range of subjects. He was one of few men who have thought things through and come to a philosophy of life. And he was one of few men who have a right to a philosophy.

It was not until after his death that some of us realized, as Mrs. Dodd has made us realize, how much the St. Botolph Club meant to him. The men most in his thoughts were members of the club, some of whom, to be sure, were held to him by the older bond of long association in the Hospital. Perhaps a club deserves to be defined, in the lines of the old comedy, as a place where fellows get together and think they are wonderful fellows, when they're not, you know, they 're not. But some of the members of one club know that to it they owe the acquaintance, and from that the friend-

ship, of one wonderful man. To Dodd, who, it may be, was too indiscriminately friendly and sometimes mistook a goose for a swan, the St. Botolph Club was a wonderful place. And that makes it so.

VI

In June, 1915, Dodd went to France as Roentgenologist with the first Harvard Medical Unit. He consulted his physicians as to whether he ought to go. They tried to dissuade him on several grounds: he was doing a useful work in Boston; surely he had earned the comforts of home; and he ought not to subject himself to hardships the severity of which could not be foreseen. These arguments did not interest Dodd in the least; they did not answer the question; and he had a quietly inflexible way of dismissing arguments that did not interest him. The question was simply whether he would be a care, a burden, to other members of the Unit. His disease might grow worse, he would have to be looked after a little, and that might put his friends, Dr. Lee and Dr. Porter, to some inconvenience. Would they be good enough to let him go? Would

they consent to grant him what he called "this great favor"? He talked quietly and calmly about the inevitable outcome of his malady and the chances of his lasting through the term of service of the Unit. Of course, there was only one answer to the question as he put it.

When it was finally decided that he was to go to France, he underwent a severe operation. The vehicle that took him from his house in Allerton to the train for New York was an ambulance. The operation had left a deep wound, still unhealed, in his arm and breast. Strange figure of a physician on his way to the war to minister to others! He planned to convalesce during the voyage, and as it turned out he and his surgeon were justified in taking what they both called a gambler's chance. For again Dodd's amazing power of recovery asserted itself. He was happy, full of eagerness for the work, and also full of the sense of adventure. His best friends and his wife were members of the Unit. Other members had

not met him before, but they soon fell in love with him. This crippled man, who was always shy and reserved, became the ring-leader of the fun on the ship.

Naturally there was much confusion and worry in the course of getting the Unit to its hospital in France. In London they did not know where they were going, or just what were their relations with the British authorities. They were harassed by questions of equipment and supplies. Dodd, the one man whose work depended on his apparatus, was quite serene and refused to worry about it. He thought out as well as he could the nature of his work and the problems it might involve.

He enjoyed the days in London, his native city, and went out exploring. He met again the London Cockney, whose dialect he reproduced in a way that a professional actor might envy.

When they finally arrived at the hospital camp in France, Dodd had one fixed idea, that no concession should be made to him

DODD IN LONDON, 1915

on account of his infirmities. Everybody from the commanding officer to the orderlies would have done anything for his comfort, but he obstinately refused any special attentions. He had a return of his old sacro-iliac trouble, and the doctors surreptitiously substituted a hospital bed for his canvas cot. Dr. Lee says, "Some of us were in great disfavor for the brief time that this kindly soul could harbor resentment toward any one." Dodd had lent his sacro-iliac corset, without which he was supposed not to travel, to a rich patient, who had forgotten to return it!

The doctors in the Unit were nearly all men of unusual competence; for whatever may be the intellectual shortcomings of Boston and Cambridge, it seems to us laymen — we would not take a doctor's word for it! — that thanks to the Harvard Medical School and the M. G. H., our physicians are a distinguished body of men. But several of them testify — here we will take a doctor's word for it! — that most of the work at a base hospital could be done by ordi-

narily competent men and that very few individuals in the Unit rose above the average. Dodd not only rose above the average, but was unique. He was the one indispensable member of the Unit. Beside his own obvious limitations, he had an inferior physical equipment, and his assistants were untrained; but he knew his work with a kind of solitary knowledge that compelled the other physicians to consult him, to accept his judgment. He told the surgeons what to do. He had seen and radiographed more cases of more kinds of injury such as the war inflicted than any surgeon in the Unit.

His apparatus was not the newest and best; it was an ordinary field outfit. He had two imperfectly trained helpers. (In a few weeks he had made them both experts.) But he loved difficulty. He rejoiced in his imperfect equipment because it recalled to him the struggles of his early days and also because he wished to prove that good work in Roentgenology can be done under adverse circumstances.

To the horror of his assistants he took his machine to pieces and rebuilt it with his own hands in his own fashion. In the neighboring hospital the X-ray apparatus was modern, elaborate, and complete, and the operators at first assumed a patronizing attitude toward Dodd's equipment. But it was not long before they were calling him in to get them out of serious difficulties. And in a short time all the surrounding hospitals sent emergency calls for Dodd when anything went wrong with their machines. It was a splendid illustration of the fact that it is the human rather than the mechanical equipment that counts.

This was the first time that the Roentgenologist and the surgeon worked together in immediate coöperation. With convoys of wounded men coming into the hospital every day, there was no time to make X-ray plates and develop them. Dodd made his examinations at once with the fluoroscope, localized the bullet or shell fragment, so that the surgeon could do his work without delay.

Once the surgeons thought that they had

caught the infallible Walter. He had indicated the position of a foreign body in a soldier's knee. On exploration, according to Dodd's marks, as they thought, the surgeons found nothing. They called Dodd and he explained. When he made the X-ray examination the man had been unable to straighten his leg. Under ether the leg had relaxed, thus shifting the position of Dodd's marks. If the surgeons would go lower, just here, they would find the object. And they did. It was a simple and obvious idea, as Dr. Porter says, to operate on a limb in the same position in which it had been when it was X-rayed; yet none of the rest of them had thought of it.

Dr. Lee and another physician visiting a neighboring hospital were asked to look at the radiographs of an unusual case of bony tumor. It had been decided to amputate the limb. The visiting doctors asked permission to submit the photographs to Dodd. He recognized a rare form of tumor in which amputation is not indicated, but which calls

for local eradication. The surgeons in the neighboring hospital took Dodd's advice, and the soldier's limb was saved.

Dodd's colleagues agree that he more than any or all of them determined the excellent standard of their work.

The months in France were the most interesting, and in spite of the horror, the happiest in Dodd's life. He was elated by the knowledge, which even his modesty could not deny, that the surgeons depended on his skill, that every minute of his long hours of work contributed to the professional success of his friends and to the well-being of wounded men. His wife and his associates, Dr. Porter, Dr. Lee, and Dr. Hopkins, made him take care of himself, and for the sake of his work and for fear of breaking down in a situation in which he felt himself under deep obligation he exhibited an unusual docility; he even consented to eat at regular times what he was told to eat; and he gained in weight. Moreover, though no man was ever more sensitive to horror, he took a sane

and serene view of the war. He was English and American and unequivocally pro-Ally. But he could not shut his broad mind to the good side of Germany and the Germans, and he never forgot that the man who discovered the X-ray was a German. Dr. Lee has finely said that Dodd had a wide visual field for all goodness and beauty, but had a congenital blind spot for the disagreeable qualities of men and things. Dodd's severest comment on a man whom he did not approve was silence. But those who suffered the rebuke of his patient silence were very few.

He returned to Boston in October, 1915. His general condition seemed better than it had been for years. His experience in France had been stimulating and had increased his professional knowledge. To the delight of his friends he had gathered and could reproduce more of the humor and the pathos of the Tommy than any other member of the Unit. In 1916 he seemed to be very well. And he was full of plans; he was preparing

to buy the house on Marlborough Street and increase the number of his associates. And he did it. Nothing but the friendly Arch-enemy could stop him. During the summer he grew worse. Dr. Porter says that a sudden infection with chills developed and that the epitrochlear and axillary glands quickly enlarged. He lost weight and had continuous fever. Yet in spite of his illness he bought the house on Marlborough Street and he was in the midst of equipping his offices and settling his apartment when the end came. A persistent cough and increasing weakness meant, as he and his physicians suspected and as autopsy finally established, that his disease had made its way into his lungs. Almost to the last he preserved his lucidity of mind and attended to the making of his will and other affairs. Then he passed into a mild delirium; and it is characteristic of him that in his delirium his thoughts recurred to the days in France, — not to the horrors, but to the happy hours, to the humors, to the "joy of the love of men."

WALTER JAMES DODD

He died on December 18, 1916.

In his will he left one hundred dollars to the X-ray department of the Massachusetts General Hospital, "with the hope that others who can afford more will give according to their means." There should be, and there will be, at the Massachusetts General Hospital a new laboratory of Roentgenology. And over the door will be written: "The Walter James Dodd Memorial."

THE END

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